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**Between demarcation and discretion: the medical-administrative boundary as a locus of safety
in high-volume organisational routines**

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Between demarcation and discretion: the medical-administrative boundary as a locus of safety in high-volume organisational routines

Abstract

Patient safety is an increasing concern for health systems internationally. The majority of administrative work in UK general practice takes place in the context of organisational routines such as repeat prescribing and test results handling, where high workloads and increased clinician dependency on administrative staff have been identified as an emerging safety issue. Despite this trend, most research to date has focused on the redistribution of the clinical workload between doctors, nurses and allied health professionals within individual care settings. Drawing on Strauss's negotiated order perspective, we examine ethnographically the achievement of safety across the medical-administrative boundary in key high-volume routines in UK general practice. We focus on two main issues. First, GPs engaged in strategies of demarcation by defining receptionist work as routine, unspecialised and dependent upon GP clinical knowledge and oversight as the safety net to deal with complexity and risk. Receptionists consented to this 'social closure' when describing their role, thus reinforcing the underlying inter-occupational relationship of medical domination. Second, in everyday practice, GPs and receptionists engaged in informal boundary-blurring to safely accommodate the complexity of everyday high-volume routine work. This comprised additional informal discretionary spaces for receptionist decision-making and action that went beyond the routine safety work formally assigned to them. New restratified intra-occupational hierarchies were also being created between receptionists based on the complexity of the safety work that they were authorised to do at practice level, with specialised roles constituting a new form of administrative 'professional project'. The article advances negotiated order theory by providing an in-depth examination of the ways in which medical-administrative boundary-making and boundary-blurring

1 constitute distinct modes of safety in high-volume routines. It also provides the basis for further research
2 and safety improvement to maximise team-level understandings of the pivotal role of medical-
3 administrative negotiations in achieving safety and mitigating risk.

4
5 **Keywords:** UK; patient safety; professional boundaries; medical-administrative boundary; negotiated
6 order perspective; general practice; organisational routines; ethnography

7
8 **Research highlights:**

- 9 • The medical-administrative boundary is a key locus of safety in primary care
- 10 • The GP safety net is defined in terms of the clinical oversight of receptionist work as a form
11 of boundary-making
- 12 • GPs increasingly rely on a receptionist safety net for the filtering of routine and complex work
- 13 • Informal boundary-blurring is a key dimension of receptionist safety work
- 14 • Receptionist boundary-blurring occurs in discretionary spaces within routine work

15
16 **Word count:** 8,994 words (including abstract, tables, references and main text)

17
18 **Introduction**

19 Since the mid-1990s, patient safety has been an increasing concern for health systems internationally
20 across both secondary and primary care (Kripalani et al. 2007; Runciman et al. 2009). During this period,
21 patient safety research, policy and practice have focused mainly on the formal quantification, assessment
22 and management of measurable dimensions of safety such as risk and harm (Reason, 1990; Vincent et al.,
23 2013). However, it is increasingly recognised that complementary approaches are required that engage

1 with the complex and uncertain nature of healthcare organisational contexts and the strengths and
2 opportunities that lie within specific organisational settings (Hollnagel, 2014; Mesman, 2011).

3 Increased managerial governance across the public services has greatly expanded the volume of
4 administrative work within UK healthcare organisations (Flynn, 2002). Much administrative work in UK
5 general practice takes place via organisational routines such as repeat prescribing and test results
6 handling, where high workloads and clinician burnout are increasingly considered safety issues
7 (Thompson and Walter, 2016). A recent review of test results handling in general practice, for example,
8 highlighted the *“information overload, underload, scatter, conflict and erroneous information”* (Elder,
9 2015, p.668) generated by the high workloads, with general practitioners (GPs) increasingly dependent
10 on *“untrained”* and *“ill-prepared”* (Elder, 2015, p.668) administrative staff. However, despite
11 administrative staff taking on increasing volumes of safety-critical back-office work, most research to date
12 has focused on the redistribution of the clinical workload between doctors, nurses and allied health
13 professionals (Grant et al., 2009; Nancarrow and Borthwick, 2005; Powell and Davies, 2012).

14 **Boundary work and the medical-administrative boundary**

15 Healthcare is delivered by multidisciplinary teams comprising a range of clinical, managerial and
16 administrative team members. Each of these occupations has its own identity, with complex hierarchies
17 and divisions existing between professions (Abbott, 1988; Freidson, 1970). ‘Boundary work’ refers to the
18 process whereby boundaries or divisions between the fields of knowledge of particular professions are
19 created, challenged or reinforced (Fournier 2000; Gieryn, 1983). This concept is grounded in a processual
20 view of organisations as negotiated orders (Strauss et al., 1963), where focus is placed on the
21 interrelationship between macro-level social and organisational power structures (‘structural contexts’)
22 and everyday micro-level processes and practices (‘negotiation contexts’).

1 The redistribution of the healthcare workload forms an integral part of the dynamic and contested nature
2 of professional boundaries in healthcare (Allen, 1997; Nancarrow and Borthwick, 2005). According to
3 Strauss et al. (1963), occupational boundaries are simultaneously fixed and elastic depending on macro-
4 and micro-level contextual factors. Boundary fixity between clinicians is achieved through a process of
5 'boundary-making' where professions distinguish themselves from each other. For example, medical
6 professionals categorise both work and patients into 'hierarchies of appropriateness' where specialist
7 higher order work is retained by medicine, while lower-order, lesser valued tasks are delegated to other
8 professionals (e.g. nurses, healthcare assistants) (Charles-Jones et al., 2003). Drawing on Weber's (1978)
9 concept of social closure, Witz (1992) writes that inter-professional boundary-making employs strategies
10 of 'dual closure' involving attempts to expand areas of control and privilege through inclusionary
11 strategies of 'upward usurpation', with routine work delegated to lower-status professionals through
12 strategies of 'downward exclusion'. In response, lower-status professionals employ a variety of
13 legitimising discourses to defend and reformulate the work delegated to them (Foley and Faircloth, 2003;
14 Sanders and Harrison, 2008).

15 'Boundary-blurring' occurs alongside boundary-making and is concerned with overcoming boundary fixity
16 through an emphasis on commonalities and "*crosscutting social cleavages*" (Wimmer, 2008, pp.986-7)
17 between professions at different points in the professional hierarchy. For example, Allen (1997) showed
18 how hospital nurses challenged the clinical hierarchy through non-negotiated boundary-blurring involving
19 nurses doing medical work that ostensibly belonged to hospital consultants without direct face-to-face
20 communication with the doctors themselves. While the medical-nursing boundary has been extensively
21 examined (e.g. Allen, 1997; Powell and Davies, 2012; Svensson, 1996), fewer studies have examined the
22 medical-administrative boundary, with a notable exception being Swinglehurst and Greenhalgh's (2015)
23 examination of the impact of administrative coding practices on professional hierarchies in general

practice. This paper also brings the administrative sphere to the fore, reflecting its growing importance as the nature and volume of general practice administrative work expands.

Inter-professional contributions to safety work

Inter-professional teamworking has long been recognised as being a key factor in the achievement of safety and the mitigation of risk in healthcare organisational settings. Vincent et al. (1998), for example, produced a model of accident causation in health care, in which the important latent conditions including institutional context, working environment, team factors, and patient characteristics.

‘Safety work’ is described by Corbin and Strauss (1988) as a social concept that encapsulates a key dimension of the ‘work’ caregivers do when caring for the chronically ill. While this term originally referred to the work of patients’ families, its social characteristics also underpin the relational characteristics of inter-professional safety work. Across different healthcare settings, the medical profession has long been recognised as taking a leading role in defining and legitimising its own safety practices. Freidson (1970), for example, has argued that the medical profession’s autonomy and expert knowledge has provided doctors with hegemonic control over their actions, with other lower-status professions and non-professionals (e.g. managers) unable to question their actions. Within the context of primary care, GPs are widely considered to have a dominant role in practice settings (Grant et al., 2009). In the context of patient safety, GPs are also considered to be a key locus of the practice safety net regarding their own diagnostic work. ‘Safety netting’, for example, is a GP diagnostic strategy that has been introduced into primary care to enable GPs to better deal with the uncertainty of clinical diagnosis by considering the consequences and future actions of correct and incorrect diagnoses (Almond et al. 2009).

To date, the majority of work on patient safety has focused on the role of doctors as the locus of safety within healthcare teams, with administrative team members often been portrayed as introducing risk and harm to the system due to their lack of clinical expertise (Elder, 2015). However, recent studies have

1 provided more nuanced perspectives on the relationship between inter-occupational boundaries and
2 patient safety by examining the complex nature of safety and risk in everyday service delivery (Boreham
3 et al., 2000; Grant et al., 2016, 2017; Iedema, 2009; Waring et al., 2016). This work has illustrated the
4 important role of receptionists in upholding safety and quality within the primary care clinical team (Arber
5 and Sawyer, 1985; Swinglehurst and Greenhalgh, 2015), with a recent study by Swinglehurst et al. (2011),
6 for example, examining the 'hidden creative work' of front-line receptionist staff in the achievement of
7 prescribing quality and safety in general practice.

8 Two key high-volume routines in UK general practice are repeat prescribing and test results handling.
9 Repeat prescriptions are prescriptions for regular medications that have been authorised for issue without
10 a consultation between the patient and prescriber. Practices also receive requests for acute prescriptions
11 which are for drugs which the patient has never had before, or drugs which the patient has had before but
12 which have not been formally authorised for repeat issuing. Acute requests are usually managed alongside
13 repeat prescription requests. Over recent decades, prescription medicine use (Guthrie et al., 2015) and
14 laboratory and radiology test requests (Elder, 2015) have risen dramatically due to population ageing and
15 increased preventative care.

16 Repeat prescribing and results handling are increasingly high-volume routines that are complex, high-risk
17 and involve non-medically trained administrative staff having responsibility for multiple tasks (McKay et
18 al., 2009; Petty et al., 2014). The aim of this paper is to examine ethnographically how both doctors and
19 receptionists achieve safety across the medical-administrative boundary within the context of repeat
20 prescribing and results handling routines in UK general practice.

21

Methods

The overall aim of the research project was to examine ethnographically how safety and quality were achieved by general practice team members (i.e. GPs, practice nurses, healthcare assistants, practice managers and receptionists) and across different general practice organisational cultures. This paper focuses on the negotiation of the medical-administrative boundary by GPs and receptionists within key high-volume routines.

Setting, sampling and data collection

The study was conducted from 2011-2014 using a multi-site ethnographic design across 8 urban and rural general practices in England and Scotland. Ethical approval for this study was obtained from the East of Scotland Research Ethics Tayside Committee on Medical Research Ethics. Practices were purposively selected on the basis of their size (smaller ~4,000 patients or larger ~9,000 patients), socioeconomic deprivation of the population served (affluent, mixed or deprived), and location (urban or small town/rural) (Table 1). Data collection was in two phases, with a long-term ethnographic study conducted in Practices 1-4 over a 24-month period in 2011/12, followed by focused fieldwork in each of Practices 5-8 in 2013/14 over one-week periods examining specific organisational routines, including repeat prescribing, data coding, and document handling (including test results and hospital letters).

TABLE 1 HERE

A multi-site ethnographic approach was adopted combining observation of everyday professional practice with interviews and documentary analysis to develop a rich and detailed picture of each general practice (Falzon 2016). The researcher (SG) has a background in social anthropology and undertook 1,787 hours of ethnographic fieldwork from January 2011-April 2014. Informed consent was obtained from each practice

team member prior to fieldwork commencing, and it was explained that the researcher was interested in learning about the organisation, systems and processes of the practice and not in assessing individuals' performance. Fieldwork was undertaken with clinical, managerial and administrative staff during normal working hours in reception areas, back-offices, consulting rooms, administrative offices, meeting rooms, coffee rooms and corridors. Detailed handwritten fieldnotes were made in full view of informants, and later transcribed for coding. In-situ accounts were elicited from staff as they worked, with the researcher asking them to talk through what they were doing as they conducted their everyday work. These accounts were recorded with permission and later transcribed and coded. Analysis of relevant written documents from each practice (e.g. protocols) was also conducted.

62 semi-structured interviews were conducted by the researcher with GPs, practice nurses, practice managers and receptionists known from observation to be involved in key organisational routines in their practices (Table 2). These were conducted towards the end of fieldwork in each practice to provide a more nuanced and context-specific focus to questioning based on the routines and practices observed. The topic guide was derived from themes raised during ethnographic fieldwork informed by relevant research literature including how healthcare safety is achieved through inter-professional collaborative work (Iedema, 2009; Waring et al., 2016), performative approaches to organisational routines (Feldman and Pentland, 2003), and everyday knowledge practices within inter-professional teams (Suchman, 2000). Interview topics included: the interviewee's role within the practice; practice organisation and approach to patient care; how the workload was divided across the practice and why; key organisational routines that the interviewee was involved in; and collaboration with other team members. The interviews lasted 60 minutes on average, and were recorded and transcribed verbatim.

TABLE 2 HERE

1

2 **Data analysis**

3 Analysis was informed by the constant-comparative method (Charmaz, 2014). Both fieldnotes and
4 interviews were annotated with observational and theoretical notes as the fieldwork progressed and were
5 shared between the research team. The researcher read the fieldnotes and interview transcripts to
6 become familiar with the data. Preliminary themes were identified through scrutiny of initial fieldnotes
7 and interview transcripts from the first two fieldwork practices and a coding framework was subsequently
8 developed that was embedded in the data collected. Data within each practice setting were firstly
9 examined in context before being compared across contexts to develop higher-level concepts and to
10 identify any differences and similarities between practice settings. While mainly inductive, analysis for
11 this paper was also theoretically driven and drew on negotiated order theory and the sociology of
12 professions, where the interrelationship between wider organisational and professional structures and
13 hierarchies ('structural contexts') and everyday micro-level processes and practices observed during
14 fieldwork ('negotiation contexts') were examined. Analysis focused on the interplay between how staff
15 negotiated the medical-administrative boundary in practice across repeat prescribing and test results
16 handling routines, and subsequent interview descriptions of the two routines. This facilitated the
17 development of a descriptive and explanatory account of the medical-administrative boundary based on
18 ongoing analysis of ethnographic fieldnotes and interviews and engagement with wider social theory.
19 During this process, 'negotiation context', 'boundary making', 'boundary blurring' and 'safety net' were
20 used as sensitising concepts based on GP and receptionist descriptions and in-situ observations across the
21 eight practice fieldsites ('negotiation contexts'). This framework was consistently applied to the remaining
22 transcripts across the final six practices using NVivo 8 software. The modified framework was then
23 reapplied to fieldnotes and interview transcripts from all eight practices, with this constant comparative
24 method continuing until no further categories emerged.

1

2 **Findings**

3 We address two major themes derived from the data in relation to repeat prescribing and test results
4 handling safety. First, we examine how GPs and receptionist engage in safety work through boundary-
5 making based on the complexity-focused GP safety net where they could exercise clinical discretion, and
6 the perceived safety or riskiness of delegating particular kinds of routine work to receptionists. We then
7 go on to examine everyday practices of boundary-blurring by GPs and receptionists based on the creation
8 of tacit 'discretionary spaces' for receptionists to engage in key forms of safety work.

9 **GP boundary-making**

10 All eight practices had experienced an increase in the volume of work in relation to repeat prescribing and
11 results handling:

12 *It's created a lot more churn. So we have far more prescriptions to sign, far more*
13 *requests for the staff to deal with and I think that is a patient safety issue in itself. The*
14 *volume of work is a patient safety issue. (Practice 5, GP1)*

15 Across all eight practices, GPs employed firm discourses of occupational closure (Witz, 1992) when
16 defining their boundary with receptionists to safely manage their increasing workloads. The medical-
17 administrative boundary was locally defined by GPs in terms of safety and risk, and the riskiness of
18 delegating more complex work to receptionists to cope with the rising practice workload. GPs described
19 their role as being safety nets for high-volume routine receptionist work through the application of clinical
20 knowledge and oversight:

21 *GPs have overall responsibility of the team, but we all have a part to play [...]. Some*
22 *people take more responsibility and that's the nature of medicine, so the buck stops*
23 *with the GPs. (Practice 8, GP1)*

1 GPs regularly described their repeat prescribing input as centring mainly on the more complex acute
2 prescriptions, which were managed as part of the repeat prescribing routine. Since acutes are not pre-
3 authorised for issue, they required a more explicit decision as to whether to issue them based on both
4 the drug requested and the patient:

5 *Acutes by and large are not given out without the doctor's say so, so every morning we*
6 *get a pile of acutes and we then have to make a decision about them. Either we know*
7 *that this is okay for the patient, for example, Mary is requesting Co-codamol, I know*
8 *that I gave it to Mary six weeks ago and it's okay for Mary to have it and I can trust*
9 *her, or we don't issue it as we need more information and assurance. (Practice 7, GP1)*

10 In all of the practices, GPs also described themselves as safety nets for the management of more “unusual
11 or abnormal” (Practice 5, GP1) results due to their specialist clinical knowledge:

12 *Well, there is a protocol for test results that the girls [receptionists] need to follow, but*
13 *unfortunately some things will override a protocol. For instance, if I have somebody*
14 *who has a very low haemoglobin I might feel that they require emergency treatment*
15 *and so this will not go back and forwards between me and the receptionists wasting*
16 *time. I will just jump in, take over, and organise what needs to be done. So there is a*
17 *protocol for the routine stuff and the more unusual or abnormal stuff will come through*
18 *the doctor who will then make a decision, and so the buck stops with the doctor.*
19 *(Practice 5, GP1)*

20 In direct contrast with their own more complex work, GPs would regularly describe receptionist input to
21 the repeat prescribing routine as focused entirely on the more straightforward processing of routine
22 patient requests through adherence to the protocol where one existed. However, local practice-level
23 definitions of what constituted ‘routine’ work and the perceived risks attached varied considerably across

the eight practices. In Practices 4, 5 and 6, for example, receptionists were only permitted to issue and print routine prescription items that were clearly 'repeats', although the specific reasons offered by practices to justify this approach varied. Practice 6 was situated in a remote rural area and was a dispensing practice (i.e. it also acted as the pharmacy dispensing the drugs to patients), and the GPs were concerned to minimise the scope for administrative error because:

Unlike in most practices the prescribing buck for our patients stops with the GP and not with the pharmacist, so we need to be extra-careful and not give our receptionists any room for error. (Practice 6, GP1)

The GPs therefore managed all of acute prescription requests, while the receptionists only processed the "unproblematic" (Practice 6, Receptionist 4) routine requests. At the other end of the spectrum, the Practice 7 receptionist, known as the "repeats guru" (Receptionist 3) due to her 27 years' experience in the practice, had fewest formal limits placed on what she was allowed to issue. She would regularly print off and amend acute requests for GPs to then authorise and return to her. Here, safety was constructed in terms of a combined ethos of efficiency and trust in this receptionist's expertise to complete the tasks, and to "double check with the doctors" (Practice 7, Repeats Guru) only when necessary. This system was justified by the GPs in terms of the need to efficiently manage the needs of the highly deprived population that the practice served, where the demand for prescriptions was particularly high. Across these two extremes, the locus of the GP safety net therefore varied depending on the locally-perceived risk attached to 'routinising' particular kinds of work for receptionists.

The majority of GPs likewise explained that their main focus in the results handling routine was on the interpretation and processing of more complex results. However, there were also variations across the practices on the locus of the clinical safety net regarding who could safely interpret and filter normal and abnormal results, and whether GPs should only process the abnormal results. In most practices, the initial

1 filtering of test results into 'normal' and 'abnormal' was considered a highly specialised task that was only
2 suited to GPs due to the clinical judgement required:

3 *Strictly speaking, you should probably find out on every occasion who the result is*
4 *destined for and redirect it to them so they can mark it as normal. Because, you know,*
5 *a normal result is you know, isn't just a normal result, it can mean any number of*
6 *different things. Although of course the reality is that this is often just not possible.*
7 *(Practice 2, GP2)*

8 In these practices, the GPs would receive all of the results from the receptionists and conduct all of the
9 initial filtering themselves. In contrast, in Practices 1 and 3, while the initial filtering of test results was
10 also considered a clinical rather than administrative role, it was defined by the GP partners as "*mundane*"
11 (Practice 1, GP1) and therefore an inappropriate use of GP time. The nurses therefore acted as "*filtering*
12 *mechanisms*" (Practice 1, GP1) in these practices to safely manage the large quantity of results and allow
13 the GPs to focus on only the more complex abnormal results:

14 *You're better to deal with the abnormal ones than deal with the normal routine*
15 *mundane ones because they should be filtered out. That's my viewpoint. That's the way*
16 *it's always worked here. (Practice 1, GP1)*

17 In other practices, however, the pre-filtering of normal results by nurses was considered by some GPs to
18 be risky as for many patients normal results were seen as also requiring action such as further tests. The
19 following example illustrates the complexities of GP decision making regarding patients with apparently
20 abnormal results:

21 *GP2 was going through the 29 results and mail in her Docman inbox following her*
22 *morning surgery. She explained that many of her patients' results were 'abnormal, but*
23 *perfectly OK for them'. For example, she checked the blood test result of a female*

1 *patient of 62 years with urea of 11.6 and creatinine of 141 and explained ‘these results*
2 *are satisfactory for her, but they’re not normal, they’re borderline. So what I’ll do is*
3 *keep an eye on her next set of blood results next month’. (Fieldnotes, Practice 3, GP*
4 *consulting room, 24.04.12)*

5 While there were individual and practice-level variations regarding what constituted risky work, all of the
6 GPs constructed a boundary with administrative or less specialised clinical work based on their own
7 expertise and ability to exercise discretion in dealing with complexity and uncertainty.

8 **Receptionist boundary-making**

9 Receptionists also described clear boundaries between their work and that of GPs on the basis of their
10 work being “*routine*” (Practice 7, Receptionist 3) and “*straightforward*” (Practice 2, Receptionist 5) and
11 GP work being complex. With repeat prescribing, receptionists emphasised that their role was to deal
12 with the processing of the high volume throughput of ‘repeat’ work and to filter off the riskier ‘acute’
13 work to the doctors:

14 *We are the first point of contact for prescriptions but we can’t do certain things. We*
15 *are just the channel to the doctors [...]. Any problems or requests that we are not happy*
16 *issuing we put to the doctor on a slip. (Practice 4, Receptionist 1)*

17 Even receptionists in the busier practices where the pressure of work meant that they had greater levels
18 of autonomy were careful to define the routine nature of their own work and the more complex nature
19 of GP work:

20 *My job’s completely different to the doctors. I mean, we’re just doing admin. We’re not*
21 *medically trained or anything. So if a test result was important then the doctor would*
22 *be the one to phone up the patient and explain everything to them, not me. (Practice*
23 *2, Receptionist 3)*

1 Receptionists were also careful to explain that the GPs would always be there as a safety net to manage
2 the more complex cases or requests where necessary:

3 *We are checking the due dates and checking the dose is the same as what the patients*
4 *are quoting in their requests. We'll pick up things like 'take 3 daily' on the request when*
5 *it says 2 daily on the computer [...]. We pick up things like that and put it to the doctor*
6 *to get it clarified. (Practice 4, Receptionist 1)*

7 Unlike nurses in previous studies (Allen, 1997; Svensson, 1996), the majority of receptionists did not
8 clearly articulate their professional projects when describing their role. Instead of making claims regarding
9 the upward usurpation of medical work, receptionists in this study formally attributed all complexity and
10 risk management to the GPs, partly by reaffirming their status as practice employees:

11 *Well, I would say the GP partners are our bosses so they are up there [points upwards],*
12 *the practice manager he's the one that makes sure the practice runs smoothly [...]. Then*
13 *there's admin. Yeah we're down there [points downwards]. We're the minions; we do*
14 *what we're told. (Practice 2, Receptionist 2)*

15 In much the same way as the GPs constructed their boundary with receptionists, receptionist boundary-
16 work discourse was also constructed in terms of defining the limits of normal and abnormal work, and the
17 role of the GPs as safety nets for more complex work.

18 **GP boundary-blurring**

19 Many GPs explained that a significant increase in their repeat prescribing and results handling workloads
20 has required them to make certain compromises to manage their volume of work. Talking about results
21 handling, for example:

1 *So it's probably workload that dominates the current situation to a large extent. If I had*
2 *ten patients, I'd want to see absolutely everything about everybody that was sent in*
3 *every time and I'd want to spend lots of time on each one, but that's not the real world.*
4 *It's just not feasible. (Practice 2, GP1)*

5 While GPs regularly described themselves as the safety net for complex and problematic elements of
6 repeat prescribing and results handling, in practice GPs effectively “*rubber stamped*” (Practice 4, GP3)
7 receptionist-filtered routine work and therefore needed to have trust in the underlying systems of
8 receptionist-led authorisation and review. Practice IT systems and protocols were regularly described by
9 GPs as key safety artefacts, with both receptionists and wider administrative systems acting as safety nets
10 for the filtering of routine and complex work:

11 *I suppose the biggest potential for error is the generation of prescriptions. We rely a lot*
12 *on the good work of the girls in the office [receptionists] to deal with the requests and*
13 *work out if there is a problem in the first place. The IT system should assist them with*
14 *that because it won't let them generate prescriptions until they have authorisations*
15 *and standardised things that the system will do to protect the patient from any errors*
16 *happening. (Practice 4, GP3)*

17 In all eight practices, GPs signed all of the repeat prescriptions reflecting the legal requirement for
18 appropriately qualified professionals to prescribe. However, in practice, pre-authorised medicines were
19 identified, examined and issued by receptionists and signed by GPs with minimal direct oversight because
20 the volume of work made it impossible:

21 *Well I suppose you can only ever know when you're doing it properly by the number of*
22 *mistakes that happen because it's such a monster area [...]. We can't possibly open the*

1 *record for every single patient that comes in so we just sign because it's on the repeat*
2 *prescription and you assume that the checks are being done. (Practice 6, GP2)*

3 The following example illustrates how routine repeat prescription authorisation work was usually carried
4 out by GPs in practice to fit around consultations and patient house visits, which in the case of Practice 1
5 was during the morning coffee break:

6 *I was sitting in the coffee room with GP3, one of the practice nurses and the practice*
7 *manager having coffee. The repeats clerk had left the pile of routine repeat*
8 *prescriptions on the coffee table as usual for the duty doctor (GP1) to sign. GP1 came*
9 *in [...] and picked up the pile of approximately 50 repeat scripts and began signing them*
10 *whilst telling us how the practice was not a 'super-practice' but 'middle of the road',*
11 *and how that's all they ever wanted to be: 'not the best and not the worst kind of*
12 *practice, just right there in the middle'. He continued chatting as he drank his coffee*
13 *and finished signing the scripts before handing them back to the prescriptions clerk.*
14 *(Fieldnotes, Practice 1, morning coffee break, 30.06.11)*

15 Increased volumes of routine work presented a contradiction for GPs as they continually negotiated being
16 the formal safety net for more complex work whilst at the same time being increasingly unable to give all
17 complexities their full attention. As a result, they were increasingly reliant on receptionists also acting as
18 safety nets for the authorisation of routine work.

19 **Receptionist boundary-blurring**

20 Some of the practices in the study had formal written protocols for repeat prescribing and results handling
21 routines that had been developed by the GPs or practice managers (Practices 2, 4, 5, 6, 8). While GPs often
22 described formal protocols as key safety artefacts, these were typically brief and rarely referred to in
23 practice. Instead, both GPs and receptionists relied on their informal, largely tacit knowledge of practice

1 routines and IT systems, patients, illnesses and medications that they had developed over time. This work
2 took place in 'discretionary spaces' within the more overt limits of receptionists' routine work and
3 involved differing forms of informal boundary-blurring through engagement with practice systems,
4 patients, medical knowledge and other team members. This informal boundary-blurring formed a key
5 element of receptionist safety work that went beyond the rigidly-demarcated GP safety net described
6 above. This discretionary space was necessary to enable practices to deal with high-volume routine safety
7 work, with its characteristics varying across both practices and individual receptionists.

8 In daily practice, even the most straightforward result required detailed in-situ interpretation of a complex
9 range of information by receptionists that went beyond the very basic instructions described in the
10 written protocols. For example, receptionists would frequently describe large disparities between the GPs
11 in terms of their working practices and actively select particular GPs on the basis of their efficiency when
12 dealing with particular requests. The following example illustrates the rationale behind particular
13 receptionist choices:

14 *The receptionist on results this morning was distributing them across the four GPs and*
15 *two practice nurses who were present today. She explained that one of the GPs in*
16 *particular was "famous for letting his Docman build up". She went into his documents*
17 *on the computer system and pointed to them: "See, he's sitting on 208 documents at*
18 *the moment! He usually tries to get through them at home, but even then they still*
19 *seem to build up compared to the other GPs. I suppose we should probably give him*
20 *less as he's so slow and we do need to get through these, but we also need to be fair".*
21 *She saw from his 'out of office' notice that he would also be absent tomorrow, and so*
22 *decided not to allocate him any today. (Fieldnotes, Practice 2, back office, 18.08.11)*

1 In the practices where they had greater authority, receptionists would also regularly check and correct
2 patients' prescription records on the IT system, including that inputted by GPs:

3 *The Computer Operator was processing a repeat prescription for an elderly patient that*
4 *included an order for 200 ibuprofen tablets. She shook her head and said that she*
5 *always made sure that patients had exactly two months' supply of their drugs ('for*
6 *example, 168 tablets is two months' supply if a patient is taking 3 tablets per day'). She*
7 *explained: 'You see, the doctors here just look at the pack size and so will often order*
8 *100 or 200 tablets – so more than two months' supply – that's how I know that it was*
9 *them who ordered this one!' [she is holding a repeat prescription in her hand]. She then*
10 *went into the system and changed the quantity to [...] 168 tablets. (Fieldnotes, Practice*
11 *1, back office, 22.05.12)*

12 While telephones and IT systems were widely used by receptionists to communicate with GPs and other
13 receptionists, many also used paper-based systems including post-it notes and query sheets as
14 'communicative genres' (Østerlund, 2007). These systems were widely used by receptionists in the repeat
15 prescribing routine to facilitate the transfer of complex information about prescription requests, with
16 highlighter pens, ballpoint pens and paperclips additionally employed to draw GPs' attention to particular
17 elements of the prescription request. The following fieldnote extract illustrate how these were employed
18 by receptionists in daily practice alongside personal knowledge and experience when patient requests
19 differed from the usual request format:

20 *The next repeat request had been made on the counterfoil of a previous prescription as*
21 *was increasingly encouraged by the practice [via the repeat prescribing protocol]. The*
22 *patient had ticked off all four standard repeat medications on the list but had also*
23 *included hayfever tablets in pen at the bottom of the page. Receptionist 3 checked the*

1 *patient's list of acute medications and saw that Loratadine was there. She explained 'I*
2 *know that Loratadine is for hayfever as I take them myself, so I'm assuming that's what*
3 *they're wanting, but I still need to check with the doc and get her to authorise it'. She*
4 *then printed out the four standard repeat prescriptions and wrote the patient's name,*
5 *date of birth and Loratadine on a yellow post-it note for the duty doctor to check with*
6 *"OK to give?" and her initials written alongside it. (Fieldnotes, Practice 5, back office,*
7 *16.07.13)*

8 Receptionists also frequently made moral judgements about patients by grading the risk of different
9 medication requests (Boreham et al. 2000), with receptionists commonly stating: *'it depends on who it is*
10 *[i.e. which patient] and what it is they want [i.e. which medication/result]'* (Practice 1, Receptionist 5).
11 Thus, while the practice IT systems and formal protocols *guided* everyday action, they did not constitute
12 scripts *for* action (Swinglehurst and Greenhalgh, 2015). Like Jeffrey (1979), the following example
13 illustrates the unofficial judgements that receptionists made regarding the patient and medication safety:

14 *Receptionist 3 brought through a handful of repeats requests from the plastic box on*
15 *the front desk [...] and continued to work through [them]. The first request was for two*
16 *repeat items (nicotine patches and paracetamol), which the receptionist issued, and a*
17 *request for 'Lipitor 20mg'. She told me 'A lot of this job is about building up knowledge*
18 *of the medications that you're prescribing. I mean, I've been doing this job for 27 years*
19 *and I've gotten to know a lot of them by generic and trade names. For example, here*
20 *this patient has given the brand name Lipitor 20mg when I know that the generic name*
21 *that is on their record is Atorvastatin 20mg, so I'll tick that. You've got to think how the*
22 *patient's thinking and be a bit of a detective sometimes. So the girls on reception will*
23 *come to me and ask about different kinds of drugs because I've learnt enough to know*
24 *a lot of them by heart. I still have to look some up, but I know a lot of the sort of routine*

1 *ones.’ She then checked that Atorvastatin was on the patient’s list of acute medication*
2 *(which it was) and highlighted it with her yellow pen along with ‘13/08/12’, which was*
3 *the last date that the item had been issued. She then wrote details of the request in*
4 *pen on the GP query sheet and joined both the standard script and special request*
5 *together with a paperclip in order not to mix them up with other scripts in the tray.*
6 *(Fieldnotes, Practice 7, back office, 25.09.14)*

7 In this example, the Practice 7 ‘repeats guru’ was drawing on her experiential clinical knowledge of
8 particular kinds of medication that formed part of her own specialised ‘professional project’ (Witz 1992),
9 which set her apart from other receptionists in the practice. Even in practices where the general rules
10 were tighter, receptionists frequently presented themselves as the repeat prescribing safety net for GPs,
11 for example, by identifying patterns of prescribing that needed correcting or bringing to the GPs’
12 attention:

13 *Receptionist 1 was processing the repeat prescription of an asthmatic patient whom*
14 *she realised had been over-ordering Salbutamol inhalers. She explained: ‘With inhalers*
15 *and things it can be dependent on the patient and if their asthma flares up we wouldn’t*
16 *always just routinely issue a prescription because it might need to be highlighted to the*
17 *doctor that this patient seems to have gone through an awful lot of inhalers. Because*
18 *your Salbutamol Type 1 is more a reliever and if they start using that a lot then the*
19 *computer system will highlight that he’s had three inhalers in the last four weeks. And*
20 *it’s not that they don’t need the inhaler, it’s that maybe their asthma is not very well*
21 *controlled. So we’re looking for over-use as a warning sign’. She then printed out the*
22 *prescription, attached a yellow sticky note to the front to bring it to the duty doctor’s*
23 *attention, and placed it in the specially-designated ‘problem pile’. (Fieldnotes, Practice*
24 *4, front office, 12.04.12)*

While receptionists worked within well-understood, locally-determined limits, their work also regularly required them to adapt to uncertainty and situations that did not fit those limits in order to mitigate risk. Such in-situ adaptations constituted particular 'discretionary spaces' for receptionist decision-making that allowed them to act sufficiently flexibly to manage complexity and achieve safe patient care. This discretionary space enabled a broader interpretation of safety than the protocol or formal GP limits allowed, which was contextually-focused and open to uncertainty.

Discussion

Previous research has shown that the process of simultaneously defending, expanding and (re)negotiating professional boundaries between clinicians has a potentially significant impact on the safety of patient care due to its direct relationship with inter-professional collaborative working and communication (Powell and Davies, 2012; Svensson, 1996). However, the nature and impact of the boundary between medical professionals and administrative staff remains less well understood. Drawing on Strauss et al.'s (1963) negotiated order perspective, this paper has examined the ways in which the medical-administrative boundary constitutes an important locus of safety in high-volume organisational routines within UK general practice.

According to the negotiated order perspective, 'negotiations' take place as a result of complex interactions between macro-level social and organisational structures and everyday micro-level processes and practices. In her analysis of the boundary between doctors and nurses, Allen (1997) highlighted the "imprecision and ambiguity" (1997:516) of Strauss et al.'s (1963) use of the term 'negotiation' to describe professionals' everyday social interactions. In particular, she emphasised the need for researchers to develop more nuanced ways of conceptualising how the social order manifests itself in everyday practice through the application of ethnographic methods rather than solely interview-based studies. This paper

has ethnographically examined the nature of micro-level negotiations between GPs and receptionists across two key high-volume organisational routines and the implications of these negotiations for the achievement of safety.

In her examination of the everyday manifestations of asymmetries of professional knowledge and power, Witz (1992) shows how professionals engage in 'dual closure' through simultaneous strategies of 'demarcation' and 'exclusion' towards subordinate professionals and 'usurpation' of higher status work. In this study, GPs engaged in well-worn strategies of exclusion and demarcation towards receptionists. This took place through a discourse of subordination that was framed in terms of GP specialist knowledge and overall control of the safety net based on their focus on the more complex work, which was complemented by a receptionist focus on the high-volume routine "*normal rubbish*" (Jeffrey, 1979). According to this formal discourse of boundary demarcation, safety was narrowly defined by GPs in everyday discourse in terms of 'social closure' (Weber, 1978) through the riskiness of their own complex work (Bosk 1979), and the avoidance of error by receptionists. Furthermore, in contrast with the nurses in Witz's (1992) study, the majority of receptionists also engaged in boundary-making when describing their roles by not formally challenging GP claims. In this respect, the underlying inter-occupational relationship of medical power and domination (Freidson, 1970) both stabilised and reinforced this narrow 'Safety-I' (Hollnagel, 2014) definition of safety through verbal accounts based on the avoidance of error and harm.

Strauss (1978) emphasised that within specific arenas, hierarchies and relationships of power and dominance are both maintained and challenged depending on the structural properties of particular organisational and inter-personal 'negotiation contexts' and how they are enacted in everyday practice. In line with Hughes' (1951) work on the local accommodation and relocation of risk, the paper has also shown how the formal demarcation of the safety net varies depending on structural features of the practice (e.g. patient population, organisational structure, workload). Different local definitions of the

1 'routine' and 'complex' therefore existed that resulted in different practice-level discretionary spaces
2 being carved out for receptionists. Within these local contexts, new restratified intra-occupational
3 hierarchies were also being created between receptionists based on the complexity of the work that they
4 were authorised to do (McDonald, 2012). In particular, certain receptionists were being allocated
5 increasing levels of clinical responsibility (e.g. the 'repeats guru' in Practice 7) to respond to practice-level
6 approaches to safety focused on reducing GP workloads. These new specialised roles constitute a new
7 form of administrative 'professional project', with future implications for how intra- and inter-
8 occupational safety is both defined and practiced in primary care (Witz, 1992).

9 While there was a dominant mainly verbal discourse of social closure based on the firm demarcation of
10 the GP safety net, informal boundary-blurring as performative action formed a key component of
11 everyday safety practices for GPs and receptionists to accommodate the volume and complexity of
12 routine practice work. This boundary-blurring made the relatively clear inter-occupational boundaries
13 that were described by participants less defined in practice. For GPs, high workloads meant that they were
14 increasingly dependent on receptionists acting as safety nets to ensure that the authorisation of routine
15 work and the filtering of complex work was conducted in a thorough manner. Thus, rather than GPs being
16 the sole safety net, the opposite was increasingly common though less formally acknowledged, with GPs
17 effectively 'rubber stamping' receptionist-led work and having to trust that the underlying systems of
18 authorisation and review were effective.

19 Receptionists also engaged in informal boundary-blurring in daily practice through the creation of
20 additional informal discretionary spaces for in-situ decision-making and action that went beyond that
21 formally assigned to them. These discretionary spaces were required to enable practices to deal with high-
22 volume routine safety work, with the size and complexity of this space varying across both practice
23 settings and individual micro-level contexts. Studies examining the exchange of documents between
24 different professionals have shed important light on the interrelationship between knowledge, expertise

1 and power, and how specific knowledge practices are negotiated and given meaning by different
2 professionals in everyday work (Riles, 2006). Swinglehurst and Greenhalgh (2015), for example, have
3 shown how lines of accountability were socially negotiated and professional hierarchies constituted
4 through administrative coding practices in UK primary care. Similarly, in her examination of professional
5 and administrative knowledge practices in a law firm, Suchman (2000) demonstrates a false dichotomy
6 between 'routine' and 'expert' knowledge, with both lawyers and legal secretaries employing judicious
7 and skilful knowledge practices. Much like GPs, receptionist input into practice routines required situated
8 practical reasoning and a complex mix of in-situ clinical knowledge, patient knowledge and knowledge of
9 practice systems. This work involved skilful 'diagnostic work' (Buscher et al., 2010) that resonates with
10 Swinglehurst et al., (2011) and the complex 'practical wisdom' and centrality of 'hidden' work of
11 receptionists in upholding the safety of the repeat prescribing routine in general practice.

12 This study has highlighted the importance of in-situ, micro-level safety practices and the experiential
13 'sapiential authority' (Boreham et al., 2000) of receptionists derived from personal experience to safety
14 dealing with complexity and uncertainty in even the most routine of work. This approach to safety
15 resonates with the 'Safety-II' approach (Hollnagel 2014), which focuses on how the inevitable, often less
16 predictable risks are managed and mitigated by practitioners using their tacit knowledge, innovation and
17 flexibility and was a key dimension of the informal boundary-blurring that took place between
18 receptionists and GPs in everyday safety work.

19 Overall, these findings advance the negotiated order perspective by adding further nuance to the concept
20 of 'negotiation context' and the organisational and individual contextual factors that influence the
21 creation of safety at the medical-administrative boundary. While boundary-making and boundary-blurring
22 are technically opposed to each other, in practice they co-existed to construct two distinct yet interrelated
23 discourses on the nature and achievement of patient safety (Carmel, 2006). First, safety was based on the
24 strict demarcation of the inter-occupational boundary between GPs and receptionists that focused on the

avoidance of receptionist-based error through the construction of the GP safety net. Second, safety was also achieved in practice through inter-occupational boundary-blurring by GPs and receptionists whereby GPs delegated important safety netting work to receptionists in relation to routine work, and receptionists engaged in tacit safety work to safely overcome complexity and uncertainty on a daily basis (Jerak-Zuiderent, 2012). These two modes of safety co-existed as a form of ‘cultural compromise’ (Wimmer, 2013) between GPs and receptionists, whereby the GP safety net dominated safety discourses and the important back-office safety work of receptionists took place by tacitly challenging GPs’ formal authority.

Conclusions

High-volume workloads and increased reliance on administrative staff are increasingly common features of healthcare internationally, with these considered safety issues that can increase the risk of error, patient harm and staff burnout (Thompson and Walter, 2016). This study contributes to a newer body of research evidence that examines the in-situ knowledge required to maintain safety and mitigate risk within and across complex organisational settings, and the adjustments and trade-offs made by professionals when faced with less predictable risks (Braithwaite et al., 2015; Mesman, 2011). Alongside the quantification and analysis of incidences or hazards through a Safety-I lens (Hollnagel, 2014), future safety improvement initiatives would benefit from focusing on how to maximise both medical and administrative knowledge and understanding of the range of legitimate approaches that are available across high-volume routines within the context of wider complex system conditions and interactions. Given increasing workloads, healthcare teams should also more actively reflect upon the nature of the relationship between medical and administrative staff, ways of making receptionist informal safety work more visible, and ways of incorporating receptionist perspectives into decision-making around the safety

of high-volume routines. This in turn has the potential to open up of new kinds of proactive, contextually-appropriate approaches to maximising safety and mitigating risk within general practice and beyond.

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2

1 **Table 1: Practice characteristics and duration of fieldwork**

Practice number	Country	Practice size	Practice urban/rural location	Practice socioeconomic deprivation	Duration of fieldwork
1	Scotland	~4000	Urban	Mixed	Long-term
2	Scotland	~9000	Urban	Deprived	Long-term
3	Scotland	~5000	Urban	Mixed	Long-term
4	Scotland	~8000	Rural	Affluent	Long-term
5	England	~5000	Urban	Mixed	Focused
6	England	~6000	Rural	Affluent	Focused
7	Scotland	~9000	Urban	Deprived	Focused
8	Scotland	~8000	Rural	Affluent	Focused

2

3 **Table 2: Practice interviewees by profession**

Practice number	GP	Practice nurse	Practice manager	Administrative staff	Total
1	2	2	1	3	8
2	2	2	1	3	8
3	2	2	1	2	7
4	2	2	1	3	8
5	2	1	1	3	7
6	2	1	1	3	7
7	2	2	1	2	7
8	3	2	1	4	10
Total	17	14	8	23	62

4

5